

## Claims

- [c1] A method of increasing the yield of stem cells in a patient, *in vivo*, for autologous transplantation, comprising the steps of: administering an effective amount of SHIP inhibitor to the patient; and harvesting the stem cells from the patient for autologous transplantation.
- [c2] The method of claim 1 wherein the SHIP inhibitor is selected from the group consisting of RNA interference compounds, antisense oligonucleotides, ribozymes, DNAzymes, nucleic acid modifiers, PNAs, nonstandard nucleic acids, aptamers, decoys, oligonucleotide based gene regulation, substrate mimics, molecular inhibitors and dominant/negative mutants.
- [c3] The method of claim 2 where in the stems cells harvested for transplantation are selected from the group consisting of hematopoietic stem cells, mammary stem cells, mesenchymal and organ specific stem cells.
- [c4] A method of increasing the yield of stem cells from a patient, *ex vivo*, for autologous transplantation, comprising the steps of: harvesting target stem cells from the patient; contacting the target stem cells with SHIP inhibitor.
- [c5] The method of claim 4 wherein the SHIP inhibitor is selected from the group consisting of RNA interference compounds,

antisense oligonucleotides, ribozymes, DNAzymes, nucleic acid modifiers, PNAs, nonstandard nucleic acids, aptamers, decoys, oligonucleotide based gene regulation, substrate mimics, molecular inhibitors and dominant/negative mutants.

- [c6] The method of claim 5 wherein the stems cells harvested for transplantation are selected from the group consisting of hematopoietic stem cells, mammary stem cells, mesenchymal and organ specific stem cells.
- [c7] A non-invasive method for harvesting stem cells from blood, comprising the steps of; administering SHIP inhibitor to a volume of blood; harvesting the stem cells from the volume of blood by leukopheresis.
- [c8] The method of claim 7 wherein the stem cells are non-hematopoietic stem cells.
- [c9] The method of claim 7 wherein the administration of SHIP inhibitor is conducted over a period between about one (1) and two (2) weeks.
- [c10] A non-invasive method of promoting recovery of a stem cell population in a patient comprising the step of administering SHIP inhibitor to the patient.
- [c11] 11. The method of claim 10 wherein the patient is recovering from myeloablation therapy.

- [c12] The method of claim 10 wherein the administration of SHIP inhibitor is conducted over a period between about one (1) and two (2) weeks.
- [c13] The method of claim 10 wherein the stem cell population comprises hematopoietic stem cells.
- [c14] The method of claim 10 wherein the stem cell population comprises non- hematopoietic stem cells.
- [c15] A method of reducing the population of target cells comprising the step of administering an effective amount of SHIP inhibitor to a patient.
- [c16] The method of claim 15 wherein the administration of SHIP inhibitor is conducted over a period between about nine (9) and twelve (12) weeks.
- [c17] The method of claim 15 wherein the administration of SHIP inhibitor is used in conjunction with chemotherapy.